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TWO NEW GENERA OF CRICETID RODENTS FROM THE MIOCENE OF WESTERN UNITED STATES

By Albert Elmer Wood

In the course of preliminary studies on fossil Cricetidae, the author has discovered two specimens that belong to this family, and whose characters warrant their separation, as distinct genera, from the previously known forms. For permission to study the first of these, I am greatly indebted to Dr. Walter Granger. The second, from the author's private collection, is now presented to the American Museum. This study was made while I was Cutting Traveling Fellow in Columbia University. The illustrations are by the author.

Other than their allocation to the family Cricetidae, the relationships of these two forms are not discussed, that being reserved for a later date, after more is known of the Oligocene forms generally referred to *Eumys*.

Schaubeumys grangeri, new genus and species[1]

Figure 1

Holotype.—A. M. N. H. No. 13757, lower jaws with associated upper molar and fragments of skull.

Fig. 1. *Schaubeumys grangeri*, n.g., n. sp. Type, A.M.N.H. No. 13757. A. Right lower molars, × 10. B. Left second upper molar, × 10.

The teeth are drawn with the buccal side at the top and with the anterior end to the left.

Horizon and Locality.—Lower Rosebud, Potato Creek, Pine Ridge Indian Reservation, South Dakota. Collected by Albert Thomson in 1906.

Diagnosis.—Similar in general aspect to *Eumys*, but the central crest is lacking in lower molars except on M_1, where it is greatly elongate, reaching the lingual side

[1] I take great pleasure in naming this genus after Dr. Samuel Schaub, the foremost worker on fossil rodents. The specific name is given in appreciation of Dr. Walter Granger's kindness in opening the rodent collections of the American Museum to me.

of the tooth; M_1 developing transverse crests, other molars tending toward alternation of external and internal cusps.

This species, although in general similar to the Oligocene form, shows several very distinct advances. In M_1, the protoconid and metaconid have united to form a transverse crest, and have lost all their former connections with the anteroconid (cusp of the anterior cingulum), which appears to have been secondarily reduced and to have lost its crescent arms. The central crest of this tooth has increased greatly in size, and extends to the lingual margin of the tooth, paralleling the metalophid and hypolophid, not only in direction, but also in size. The buccal end of this crest is a strong, well-rounded cusp (called by Schaub[1] the "Mesostylidsporn" or mesostylid spur). In the other two lower molars, there is a strong cusp forming the center of the anterior cingulum, which unites with the metaconid. Its union with the protoconid is aborted in M_2 and weak in M_3. No trace of central crests appears in either of these teeth. The posterior crescent arm of the protoconid of M_2 is reduced, and is breaking up into a series of conules, which suggests that it is in the process of disappearing. In the upper molar (M^2, Fig. 1B), the anterior cingulum is reduced to a single cusp at the center of the tooth, connected by a crest with the protocone. From this crest another cusp has budded off. The central crest is well developed. The posterior cingulum is minute.

The characters listed above seem, on the whole, to be specializations of the *Eumys* type of tooth toward what is found in *Peromyscus*. Unfortunately, we do not know the Oligocene forms well enough to be able to tell, as yet, from which, if any, of the many forms lumped under "*Eumys elegans*" this animal has been derived. Nor is it possible as yet to indicate its precise relationships with *Peromyscus*. However, the fact that the posterior arm of the protoconid of M_2 is disintegrating, instead of swinging posterad to meet the entoconid, as seems to have happened in the ancestors of *Peromyscus*, would seem to indicate that this is a member of another line.

Horatiomys montanus, new genus and species[2]

Figure 2

HOLOTYPE.—A. M. N. H. No. 22714, right mandible with M_1.

HORIZON AND LOCALITY.—Deep River Miocene, seven miles south of Ft. Logan, Montana, west side of Smith River, north side of Thompson's Gulch, west of main road. Collected by A. E. Wood, August 30, 1931.

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[1]Schaub, S. 1925. 'Die Hamsterartigen Nagetiere des Tertiärs und ihre lebenden Verwandten.' Abh. Schweiz. Pal. Gesell., XLV, 112 pp., 5 pls., 15 figs.

[2]I take great pleasure in naming this genus after Dr. Horace Elmer Wood, II, in appreciation of his invaluable assistance to me in my work on fossil rodents.

DIAGNOSIS.—Pattern based on four main cusps with a two-cusped anterior cingulum; posterior cingulum vestigial; large central cusp with three radiating arms; crest running posterad from metaconid along lingual margin of the tooth.

Besides the arrangement of the cusps as outlined in the diagnosis, and as may be seen from the figure, the outstanding features of this tooth are the extreme elevation of the four primary cusps, and the fact that the union between the hypoconid and the entoconid is at the posterior margin of these two cusps, instead of at the anterior end, as in *Schaubeumys*. The manner in which this different type of loph formation has

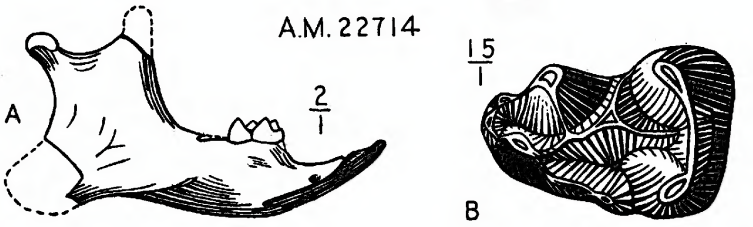

Fig. 2. *Horatiomys montanus*, n.g., n. sp. Type, A.M.N.H. No. 22714. A. Right mandible, outer view, × 2. B. Right first lower molar, × 15.
The buccal side of the enlarged molar is at the top; the anterior end to the left.

arisen can not be determined from the available material. The jaw itself has some peculiarities in shape, particularly noticeable in the quadrangular ascending portion. The masseteric crest ends well back, below the center of the alveolus of M_2, and is widely separated from the mental foramen.

The relationships of this animal are entirely unknown at the present moment. There are certain vague similarities in pattern between M_1 and the corresponding tooth of *Neotoma*, but they are too sketchy, and the time interval is too great, to allow any trust to be put in them. The phylogenetic position of this form cannot be determined until after further study of middle Tertiary Cricetidae.